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Alexandra-Maria Sabou, Raluca Diana Georgescu, Anca Dobrean

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Research article

Empathy and Bystander Roles in Children and Adolescents: a Systematic Review and Meta-Analysis

Alexandra-Maria Sabou [a], **Raluca Diana Georgescu** [b, c], **Anca Dobrean** [d, e*]

[a] *Doctoral School "Evidence-based assessment and psychological interventions", Babes-Bolyai University, Cluj-Napoca, Romania*
[b] *Department of Rehabilitation Medicine, University of Washington, Seattle, USA*
[c] *Department of General Psychology, University of Padova, Padova, Italy*
[d] *Department of Clinical Psychology and Psychotherapy, Babes-Bolyai University, Cluj-Napoca, Romania*
[e] *The International Institute for the Advanced Studies of Psychotherapy and Applied Mental Health, Babes-Bolyai University, Cluj-Napoca, Romania*

*Corresponding author: *ancadobrean@psychology.ro*

Abstract

Empathy has been a constant component of anti-bullying programs based on bystander intervention. However, less is known about how cognitive and affective empathy are related to bystander behavior. The aim of the current meta-analysis and systematic review was to test the association between cognitive and affective empathy with three categories of bystanders: defenders, outsiders and pro-bullies. We systematically searched PsychINFO, Scopus, Web of Science and PubMed until March 2025. A total of 32 studies were included, with a combined sample of 24,783, mean age 11.93 years old. All studies were evaluated to be of good or fair quality. Results indicate significant positive correlations between defending and both cognitive and affective empathy, with a slightly larger correlation coefficient for affective empathy. Being an outsider was negatively and significantly related to affective empathy and negatively, but not significantly to cognitive empathy. Only one study has investigated cognitive empathy in relation to pro-bully involvement, therefore analyses were conducted exclusively on affective empathy. The association between affective empathy and pro-bully bystanding was negative and significant. Heterogeneity levels were high across results. No moderation effects were identified, but sensitivity analyses revealed minor improvements after eliminating ad-hoc measures of empathy in some instances. Funnel plot visual investigation indicated possible small study effects, but the Egger's formal test revealed no publication bias. Results based on a limited number of studies should be interpreted with caution. Altogether, findings suggest that future studies should distinguish between cognitive and affective empathy and should address multiple bystanding behaviors.

Keywords:
affective, bullying, bystander, cognitive, defender, empathy

1. Introduction

School bullying is represented by the repeated aggressive behaviors intended to harm others, including an imbalance of power between the victimized peer and the aggressor or a group of aggressors (Olweus, 2013). It is a global social issue among youth, with 43% reporting bullying experiences at least monthly (Johansson et al., 2022). Traditional bullying is viewed as a social event including not only the victim and aggressor, but also other participants (O'Connell et al., 1999). Bystander roles involve children who witness bullying episodes and choose to intervene or not (Mazzone, 2020). One bystander role conceptualization includes defenders, assistants of the bully, reinforcers of the bully, and passive bystanders or outsiders (Salmivalli et al., 1996). Defenders protect the victim by stopping the bully, calling for help, or talking to the victim. Reinforcers and assistants encourage bullies by laughing or joining in. Passive bystanders or outsiders choose not to involve themselves, which can indirectly enable bullying. Evidence shows that 55% of adolescents reported passive bystanding, 38% defending the victim and 7% claimed supporting the aggressor (Eijigu & Teketel, 2021). In samples based on primary and secondary school children almost half, between 44% and 45% reported involvement as defenders or outsiders (Pouwels et al., 2018).

2. Theoretical foundation

While victims and aggressors have rightly been the focus of research, bystanders can also play an important role in how bullying episodes unfold (Salmivalli, 2014). The involvement of bystanders as defenders of victims was negatively associated with the frequency of classroom bullying episodes, whereas reinforcing the bully was positively associated with bullying perpetration (Salmivalli et al., 2011). Additionally, meta-analytic data indicate that school-based prevention programs based on bystander intervention are effective in increasing peer defending

(Polanin et al., 2012). Bystander-based interventions such as STAC (i.e., Stealing the show, Turning it over, Accompanying others and Coaching compassion) teach children how to respond when witnessing a bullying episode through strategies such as drawing attention away from the victim (Peck et al., 2024). These interventions are effective in reducing bullying perpetration even in children who are occasionally bullies (Midgett et al., 2017).

Understanding the factors behind bystanders` choices to engage or remain passive in bullying events can be useful for the development of future interventions. Empathy is one of the most intensively studied factors in relation to multiple bullying roles (Imuta et al., 2022). Empathy can be defined by appealing to four characteristics frequently encountered in scientific literature, as summarized by Eklund and Meranius (2021). Thereby, it reflects the ability to understand, feel, and share the affective experiences of others while maintaining the differentiation between self and others. Specifically, there are two common types of empathy. One is cognitive empathy, which includes understanding the emotions of others and being able to see and acknowledge their perspective. The other is affective empathy, representing the theme of feeling and sharing affective states of the target person (Eklund & Meranius, 2021).

In youth samples, general empathy was positively and significantly associated with prosocial behavior (Qiu et al., 2024). Experimental evidence suggests that empathic actions are based on altruistic motives, meant to alleviate the victims` suffering and not egoistic ones, with the purpose of distress avoidance (Stocks et al., 2009). In bullying, adolescents with greater empathy levels were more prone to defend their victimized peers (Yun & Graham, 2018). However, highly empathic children were more upset and exhibited higher physiological activation when watching bullying-depicting videos than low-empathy children (Barhight et al., 2013). In addition to empathy, emotion regulation and cognitive flexibility are necessary for prosocial actions to occur (Laghi et al., 2018). High empathic distress and a lack of adequate emotion regulation strategies could hinder prosocial behaviors (Eisenberg et al., 2010). Therefore, it is not clear if high empathy levels automatically lead to prosocial actions such as peer defending.

The relationship between empathy and bystander behavior is not clearly understood, especially considering the two types of empathy investigated: cognitive and affective. For defenders, some studies show that affective, not cognitive empathy is more strongly associated with peer defending (e.g. Belacchi & Farina, 2012; Caravita et al., 2009; Fredrick et al., 2020; Gini et al., 2007, 2008; Harrison et al., 2025). Conversely, other studies reported stronger associations between cognitive empathy and defending (Machackova & Pfetsch, 2016; Tang et al., 2025; Wang et al., 2023; Yun & Graham, 2018). Similarly, there are contradicting results for outsiders as well. Some results indicate stronger negative associations with affective empathy and weaker negative associations with cognitive empathy (Belacchi & Farina, 2012; Pozzoli et al., 2017), while others obtained negative associations with cognitive empathy and positive associations with affective empathy (Belacchi & Benelli, 2020). In contrast, Gini et al. (2008) revealed stronger associations with cognitive empathy and not affective empathy for outsider behaviors. Involvement in the roles of reinforcers and assistants of the bully, called from now on pro-bullies, is negatively associated with both affective (Álvarez-García et al., 2021; Troop-Gordon et al., 2019; Xie & Ngai, 2020) and cognitive empathy (Machackova & Pfetsch, 2016). However, cognitive and affective empathy have different patterns of association with multiple forms of aggression (Yeo et al., 2011). When controlling for cognitive empathy, affective empathy was related to physical aggression, and when controlling for affective empathy, cognitive empathy was associated with indirect aggression. Likewise, proactive aggression presented stronger associations with both types of empathy, although marginally higher for affective empathy than reactive aggression (Euler et al., 2017). A meta-analysis found cognitive empathy more strongly related to aggressive behaviors than affective empathy (Jolliffe & Farrington, 2004). Consequently, considering that pro-bullies do not necessarily exhibit proactive aggression, they may possess some level of cognitive empathy.

Examining the relationship between empathy and bystander behavior, several factors may influence how the strength of this relationship varies across research. Multiple studies indicate that girls generally obtain higher cognitive and affective empathy scores than boys (Benenson et al., 2021; Geng et al., 2012; Trentini et al., 2022). However, in a study of children and adolescents aged seven to seventeen, gender influenced only cognitive empathy (Schwenck et al., 2014). The authors proposed distinct maturation processes for cognitive and affective empathy. Indeed,

stronger development of empathic concern was observed in girls for both genders, while for boys, this development was partially similar to that of girls, but later decreased for other boys (Olweus & Endresen, 1998). Across age, from the first sign of distress at the hearing of another newborn cry to the stability of empathy in late adolescence and early adulthood, empathy develops gradually (McDonald & Messinger, 2010). The informant of the empathy measurement, whether self-reported or reported by others, also influences the magnitude of the relationship between empathy and bystander roles (Sesso et al., 2021). While most empathy instruments are self-reported (Sesso et al., 2021), children might not be truthful in their responses and their answers can reflect social desirability, overestimation or lack of confidence in their empathic skills (Neary, 2023). Accordingly, gender, age, and type of report for the empathy instrument will be accounted for in the current analysis.

Previous systematic reviews and meta-analyses have investigated the relationship between empathy and different bullying roles, including defending and other bystander behaviors (Deng et al., 2021; Imuta et al., 2022; Ma et al., 2019; Nickerson et al., 2015; van Noorden et al., 2015; Zych et al., 2019). Nevertheless, one study was a systematic review of the literature (van Noorden et al., 2015). Two of them included multiple bullying roles or factors besides empathy such as theory of mind (Imuta et al., 2022) or looked at defending in cyberbullying contexts as well (Ma et al., 2019). Greater complexity can divert attention away from the specific characteristics of the relationship between empathy and bystander roles. Of the remaining two, one examined the associations between cognitive and affective empathy and only defending as the main bystander role (Deng et al., 2021), whereas the other did not differentiate between affective and cognitive empathy (Nickerson et al., 2015). Searches conducted by Deng et al. (2021) included papers published only until 2020 and did not distinguish between willingness to intervene and actual defending behavior. Given how important bystanders are in enabling or hindering future peer victimization it is important to look not only at the relationship between empathy and defender behavior but also into the relationship between empathy and other bystander roles, outsiders and pro-bullies, whose behavior can be further shaped in order to promote prosocial actions.

The aim of the current systematic review and meta-analysis is to address these gaps and investigate the associations between cognitive and affective empathy and three bystander roles: defenders, outsiders and pro-bullies. The first objective of the study is to test the magnitude of the association between each type of empathy and each bystander role. The second objective of the study is to test whether the strength of this relationships is influenced by moderating factors such as: sample size, percentage of girls, validation status of the empathy scale, informant of the empathy scale (self or other), and country.

3. Research methodology

3.1. Protocol

The study protocol was preregistered at https://osf.io/fpwhr. There were some minor deviations from the original protocol. First, we decided to exclude moderators based on bystander instruments because we aimed to focus on the outcome of interest, meaning empathy. We were also unable to analyze countries or regions where the studies were conducted as moderators due to lack of variability in the data. Most studies were based on Western samples. Additionally, statistical analyses were performed using Stata 18 and not Comprehensive Meta-Analysis software. This allowed for more analytical flexibility, which is in line with current objectives. Lastly, we decided not to perform a transformation on data extracted from studies reporting standardized regression Beta coefficients. Simulations and empirical data revealed that the use of beta estimation procedures was associated with potentially extensive biases and using only correlations performed consistently better than using beta estimations (Roth et al., 2018). Combining different types of effect sizes in one meta-analysis can lead to conceptual heterogeneity and therefore reduce interpretability (Aloe, 2015).

3.2. Identification and selection of studies

We systematically search by abstract and title the following databases: PsychINFO, Scopus, Web of Science and PubMed on March 12, 2025. Keywords and search terms for PsychINFO, Web of Science and PubMed included: (empath* AND defend*) OR (empath* AND bystand*) NOT medical* NOT nurse* NOT work*. This query string was mildly altered for Scopus: TITLE-ABS-KEY ((empath* AND defend*) OR (empath* AND bystand* AND NOT medical* AND NOT nurse* AND NOT work*). In Scopus, searches were made in title, abstract and keywords. We did not restrict our searches by publication date, language, or age of the participants. In addition, we

conducted a manual search of the references in the previous systematic reviews and meta-analyses in order to retrieve potentially relevant studies. All obtained articles were included and further analyzed using EndNote. This process involved eliminating duplicates and reviewing papers based on their title and abstracts. Screening of the studies and full text analysis based on inclusion and exclusion criteria were conducted by two independent researchers, A.M.D and J.M. All disagreements were resolved through discussion.

3.3. Inclusion and exclusion criteria

Included studies had to be quantitative, published in English, in peer-reviewed journals, and containing samples of children and adolescents under 18 years old. We included studies containing data from cross-sectional, experimental, or longitudinal designs, but for the last two categories only if baseline or first-wave measurements were available. Studies had to measure at least one component of affective or cognitive empathy and at least one of the three bystander roles, defenders, outsiders or pro-bullies, referring to involvement in traditional bullying contexts. To be considered, studies had to provide data necessary for the estimation of the effect size. Studies were included if their definition of empathy allowed for the identification of either affective or cognitive empathy. Excluded studies were qualitative in nature, meaning case studies, book chapters, conference abstracts, reviews of the literature, commentaries, or dissertation theses. We also excluded studies investigating general aggression or only cyberbullying, studies based on clinical samples (e.g., ADHD, autism), studies not differentiating between affective and cognitive empathy, studies including general empathy scores and not distinguishing between bystander roles. Studies with data concerning the association between either cognitive or affective empathy and aggressive defending such as confronting, attacking, excluding or harming the aggressor in any other way were also eliminated. This decision was based on research pointing out that children who take action against the bully also bully others and cluster together in a separate group from overall defenders and victim-oriented defenders (Reijntjes et al., 2016). Therefore, we consider aggressive defending to be conceptually different from what we traditionally understand by peer defending and we chose not to include it.

3.4. Data extraction and coding

Full texts of the selected studies were examined by two independent researchers working in parallel (A. M. S and J. M). Disagreements were resolved by discussion and by consulting the specific paper where divergencies appeared. The following data were extracted from each included study: study identification data containing first author, title and year of publication, design, the country in which the study was conducted, sample size (including subgroup sample size when needed); sample characteristics such as age and gender; outcome (cognitive and/or affective empathy), outcome measurement (type of measurement for empathy: validated or ad-hoc, respectively informant: self or other), bystander role, bystander measurement (type of measurement for bystander: validated or ad-hoc and type of informant: self or other) and estimators for the association between variables, specifically Pearson`s r. When studies performed associations between multiple facets or subtypes of empathy, for example, empathic concern and personal distress, which are both facets of affective empathy (Lambe & Craig, 2023), and involvement in a bystander role, we included all correlations. Subsequently, they were all combined into a single effect size.

3.5. Assessment of study quality

The quality of each included study was assessed by using the Quality Assessment Tool for Observational Cohort and Cross-Sectional Studies, developed by NHLBI (NIHLBI, 2021). This assessment tool contains 14 questions evaluating key characteristics which are relevant to the internal validity of a study. Each question can be answered by “Yes”, “No”, “Cannot determine” or “Not applicable”. The total score was obtained by calculating the sum of all “Yes” answers, which could range from 0 (poor quality) to 14 (good quality). The total number of affirmative questions was then transformed into a percentage representing the quality of the study: <50% poor, between 50 and 75% fair, and over 75% good quality. Two evaluators rated the quality of each study and disagreements were discussed. The level of agreement between the rates was computed using Cohen’s κ (kappa) (McHugh, 2012).

3.6. Data analysis

All analyses were performed using Stata 18 (*StataCorp, 2023*). A random-effects model was used to account for high heterogeneity, as it allows effects to vary across studies. For the main objective of the current meta-analysis effect sizes for the relationship between each type of empathy (cognitive and affective) and each type of bystander involvement role (defender, outsider and pro-bully) were calculated as

Pearson's *r* along with the sample size (N) of included studies. Identified correlation coefficients were then transformed to Fisher's *z*, which represented the values included in the analyses (Borenstein et al., 2021). In order to allow interpretations these values were later transformed into correlations. Coefficients thus obtained were interpreted based on Cohen's benchmarks where an r of .10 represents a small effect, an r of .30 a medium effect and an r of .50 a large effect size (Cohen, 2013). Lower and upper 95% confidence intervals (CI) were computed to determine the statistical significance of estimated effect sizes.

The I^2 statistic was used to evaluate the heterogeneity of effect sizes. It reflects the proportion of variance in effect sizes across studies that is related to true differences between studies rather than chance or sampling error. Interpretation of I^2 values was based on the following ratings: 25% or less indicates low heterogeneity, 50% moderate heterogeneity and 75% or higher indicates high heterogeneity (Higgins et al., 2003). Similar to the effect sizes, the 95% CI was computed for each I^2 value as well.

3.6.1. Sensitivity and moderation analysis

Robustness of the meta-analytic findings was assessed by computing sensitivity analysis. For each association between an empathy type and a bystander role, we excluded categories of studies based on specific methodological characteristics. Specifically, we excluded ad-hoc measures and studies with empathy instruments based on other reports or informants. By conducting these analyses, we aimed to investigate whether the use of validated versus non-validated and self versus other-reported measures influenced the overall pooled effect sizes.

Additional sources of heterogeneity among effect sizes were explored by effectuating moderation analyses on three categories of moderation variables: sample size, mean age and the percentage of girls, reflecting gender composition. We were unable to run moderation analyses based on the country in which the study was conducted due to lack of variability. Included moderators were assessed in random-effects meta-regression models based on regression coefficients, standard error (SE), statistical significance and 95% CI. R^2 values were computed for the percentage of heterogeneity explained by each moderator.

3.6.2. Small study effects

Assessment of publication bias included the use of two strategies. First, funnel plots were visually inspected for asymmetry, which might indicate publication bias. Then, Egger's test, a regression-based statistical test, was performed to provide formal evidence of the absence or presence of publication bias (Egger et al., 1997).

4. Results

4.1. Selection process

Figure 1
PRISMA flow-diagram of the study selection process

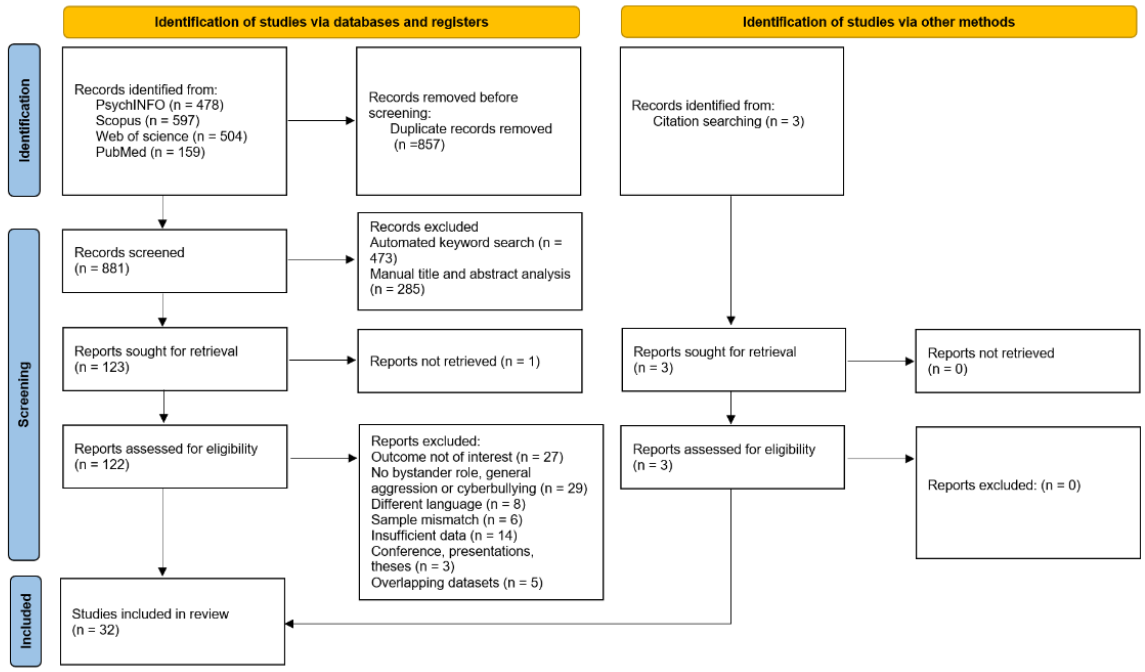


Figure 1 presents the PRISMA diagram containing all steps of the inclusion process and arguments for excluded studies. A total of 1738 studies were obtained after the initial search. We then eliminated 857 duplicates and excluded additional records by automated keyword search using terms as "law", "military" or "brain". This allowed for 285 articles to be examined by title and abstract. Next, 123 studies were retrieved for full text investigation, with the exception of one article which we were not able to obtain. Therefore, 122 articles were further examined for eligibility, out of which 29 met the inclusion criteria. Three additional studies were retrieved from the investigation of citations in previous studies. Finally, 32 studies were included in the current meta-analysis.

4.2. Study characteristics

The combined sample of the 32 final samples includes 24783 participants, with a mean sample size of 774 participants. Studies were published between 2007 and 2025 and reflect samples across 13 countries, with the majority of studies coming from Italy (9 studies). The mean age of the 28 studies that offered information regarding specific sample age was 11.93. The remaining studies specified the mean age of the sample before eliminating some of the participants, thus making reports of mean age less representative for the sample included in the current meta-analysis. The percentage of girls across the 31 studies was 49.8%. One study lacked information regarding the percentage of girls in the final sample, therefore we could not include information regarding gender distribution (Fredrick et al., 2020). Other four studies reported separate results for boys and girls (Gini et al., 2007; Menolascino & Jenkins, 2018; Troop-Gordon et al., 2019; Yun & Graham, 2018), which was accounted for when calculating the mean percentage of girls. All 32 studies included affective empathy, and out of them, 15 included measures of cognitive empathy as well. The most frequently investigated bystander role was the defender, which was included in all studies with the exception of one study addressing only pro-bully behavior (Troop-Gordon et al., 2019). The next most frequently examined role was the outsider, which was included in 13 studies, and the last was the pro-bully, with 7 studies. Empathy was mostly examined with The Interpersonal Reactivity Index (IRI) (Davis, 1983) (11 studies), followed by How I Feel in Different Situations Scale (HIFDS) (5 studies) (Feshbach et al., 1991) and the Basic Empathy Scale (BES) (4 studies) (Jolliffe & Farrington, 2006). Appendix A presents a list of all included studies, and Appendix B, Table 1 provides a comprehensive description of them. Appendix F includes a list of excluded studies and arguments for exclusion.

4.3. Quality assessment of the included studies

The evaluation of quality assessment resulted in 6 studies being included in the *good* category, representing high quality, and the remaining 26 studies obtained scores indicating inclusion in the *fair* category, representing moderate quality. No *poor*-quality studies were identified. The score for each study was calculated by determining the proportion of affirmative answers. Given that most of the studies were cross-sectional, we did not take into consideration questions which were not applicable to the examined study in calculating the percentage of affirmative answers. For example, question 12 regarding blinding of the assessor to the exposure status of the participants was not applicable across all 32 studies, therefore the percentage of affirmative answers was calculated by dividing to a maximum of 13 possible affirmative answers. The interrater reliability for the quality of the studies between the two assessors was very good, Cohen`s k = 0.87, $p<0.001$. A full description of the quality ratings is provided in Supplementary materials, Appendix C, Table 2.

4.4. Overall meta-analytic effects and sensitivity analyses

Table 1 summarizes main findings for the association between the involvement of each bystander role and each type of empathy, including sensitivity analyses for ad-hoc measures and other informant reports of empathy.

4.4.1. Defenders

Cognitive empathy and defending showed a significant and positive pooled effect size r=0.26, 95% CI [0.21, 0.32], indicating a small to moderate correlation. The I^2 index for heterogeneity was high at 92%, 95% CI [88, 94]. Sensitivity analyses for result robustness were conducted by excluding 10 studies with ad-hoc measures and 16 studies with other informants, both for cognitive empathy measures. Results yielded statistically significant associations, but no significant improvement of the correlation. This indicates that the main results were not influenced by studies with these characteristics. A forest plot of the association between defending and cognitive empathy is presented in Figure 2. All forest plots are presented in Appendix D.

Table 1
Overall meta-analytic effects and sensitivity analyses

Outcome	k	N	*r*	LCI	UCI	I^2	LCI	UCI
Defenders								
Cognitive	17	14.846	*0.26*	*0.21*	*0.32*	*92*	*88*	*94*
Excluding ad-hoc measures for cognitive empathy	10	11.788	*0.20*	*0.16*	*0.25*	*79*	*64*	*89*
Excluding reports by others of cognitive empathy	16	14.658	*0.25*	*0.20*	*0.31*	*92*	*88*	*94*
Affective	31	24.299	*0.29*	*0.24*	*0.35*	*95*	*93*	*96*
Excluding ad-hoc measures for affective empathy	26	14.665	*0.29*	*0.23*	*0.36*	*95*	*94*	*96*
Excluding reports by others of affective empathy	29	24.006	*0.28*	*0.23*	*0.33*	*94*	*93*	*95*
Outsiders								
Cognitive	5	1179	-0.09	-0.28	0.10	92	88	97
Excluding ad-hoc measures for cognitive empathy	4	1062	-0.09	-0.32	0.14	94	92	97
Excluding reports by others of cognitive empathy	4	991	-0.03	-0.21	0.16	88	85	89
Affective	13	7412	*-0.12*	*-0.23*	*-0.01*	*96*	*94*	*97*
Excluding ad-hoc measures for affective empathy	10	5771	-0.13	-0.26	0.01	96	95	97
Excluding reports by others of affective empathy	11	7119	-0.08	-0.19	0.04	96	94	97
Pro-bullies								
Affective	7	4334	*-0.17*	*-0.20*	*-0.14*	*0*	*0*	*77*
Excluding ad-hoc measures for affective empathy	5	2810	*-0.18*	*-0.21*	*-0.14*	*0*	*0*	*77*

Note: Abbreviations: k = number of studies; N= number of participants; LCI=lower confidence interval, UCI=upper confidence interval, I^2= percentage of heterogeneity. Results are reported with r coefficients, random-effects model. The positive effect indicates a positive association. Significant results are marked with italics.

The overall effect sizes for affective empathy were also positive and significant *r*=0.29, 95% CI [0.24, 0.35], reflecting a small to positive effect size, with high heterogeneity I^2=95%, 95% CI [93, 96]. Sensitivity analyses showed that the overall effect remained consistent after eliminating 26 studies with ad-hoc reports and 29 with reports by other informants, indicating that results were not influenced by the investigated characteristics. Figure 3 includes forest plots for the associations between defending and affective empathy.

4.4.2. Outsiders

For the association between outsider behavior and cognitive empathy the overall effect size was negative and not significant *r*=-0.09, 95% CI [-0.28, 0.10]. Heterogeneity was high I^2=92%, 95% CI [88, 97]. Sensitivity analyses showed no improvement in effect sizes after excluding ad-hoc and other reported measurements of cognitive empathy. The forest plot, including correlations for each study, is presented in Figure 4.

Figure 2
Forest plot: defending and cognitive empathy

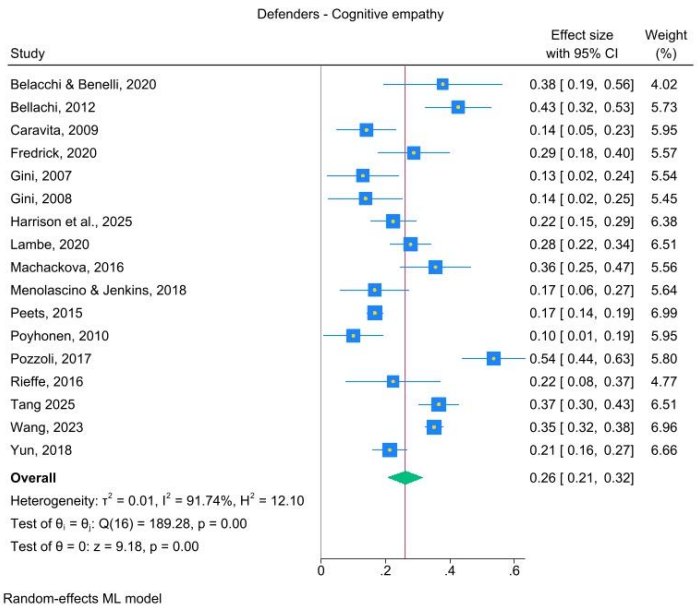


Figure 3

Forest plot: defending and affective empathy

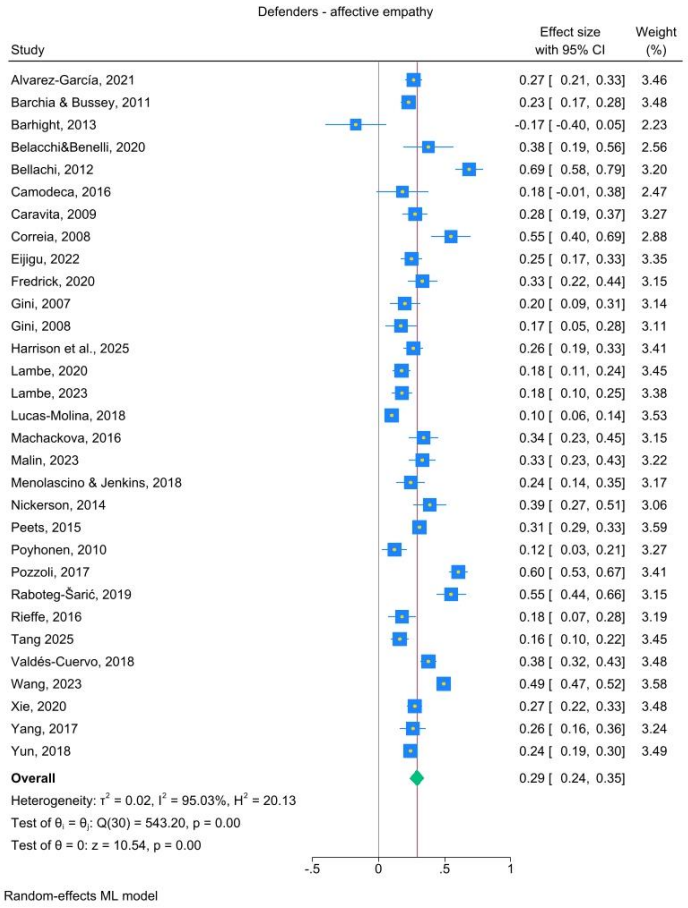
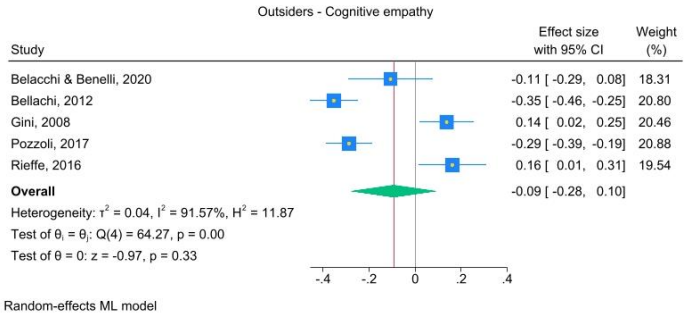


Figure 4

Forest plot: outsider and cognitive empathy



Pooled effect sizes for outsider involvement and affective empathy revealed a small negative significant effect size *r*=-0.12, 95% CI [-0.23, -0.01], with high heterogeneity levels I^2=96%, 95% CI [94, 97]. Sensitivity analyses showed no significant results after excluding ad-hoc and other reports measures for affective empathy. There was a small improvement in the correlation coefficient after excluding ad-hoc measures, but it was not statistically significant. Figure 5 presents a forest plot for the outsider-affective empathy association.

4.4.3. Pro-bullies

The pooled effect size for pro-bully involvement was assessed only with affective empathy due to the lack of studies investigating cognitive empathy. The results indicate a small, negative and significant effect size *r*=-0.17, 95% CI [-0.20, -0.14]. There was no observed heterogeneity I^2=0%, 95% CI [0, 77], meaning that variation across studies was minimal. Sensitivity analyses were performed only by excluding ad-hoc measures for affective empathy and showed a small significant improvement in the pooled effect size *r*=-0.18, 95% CI [-0.21, -0.14], with minimal heterogeneity as well I^2=0%, 95% CI [0, 77]. The forest plot for the associations between pro-bully involvement and affective empathy is presented in Figure 6.

Figure 5

Forest plot: outsider and affective empathy

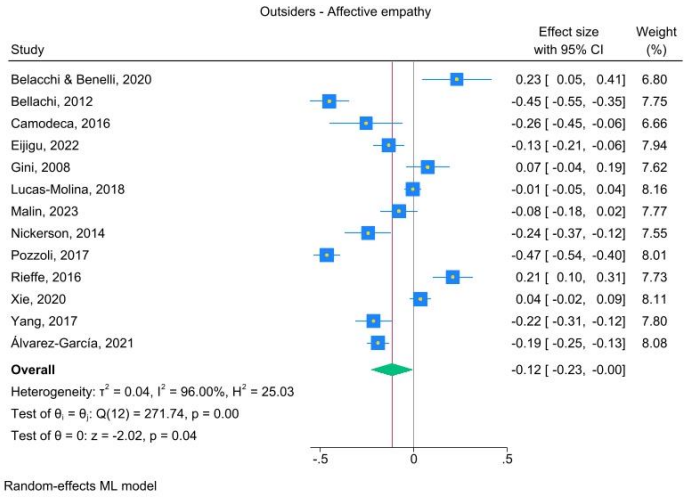
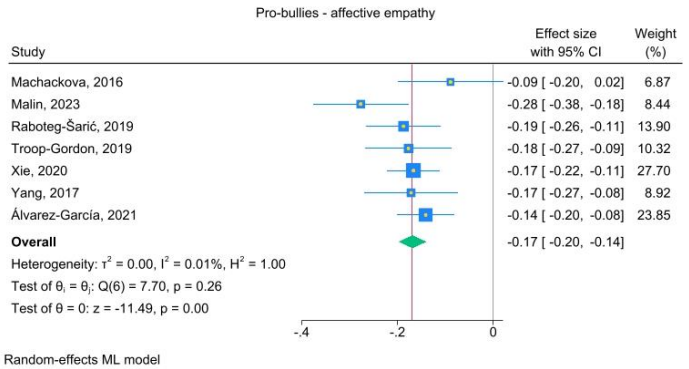


Figure 6

Forest plot: pro-bully and affective empathy



4.5. Meta-regression analyses and small study effects

Random-effect meta-regression analyses were performed to examine whether sample size, mean age and the percentage of girls moderate the associations between each type of empathy and bystander behavior. For the small study effects visual examinations will be described, along with results of the Eggar`s test for publication bias. Forest plots of effect sizes for every investigated subgroup and examined funnel plots are presented in Appendix D. Due to the limited number

of studies included in the analyses regarding the roles of outsiders and pro-bullies, results should be interpreted with caution.

4.5.1. Defenders

For the association between defending and cognitive empathy neither sample size *b*=-4.1006, *SE*=0.0000, *z*=-0.25, *p*=0.801, 95% CI [-0.000, 0.000], mean age *b*=-0.0145, *SE*=0.0140, *z*=-1.03, *p*=0.303, 95% CI [-0.0421, 0.0130], nor the percentage of girls *b*=-0.0123, *SE*=0.0086, *z*=-1.43, *p*=0.153, 95% CI [-0.0293, 0.0046] were significant moderators. However, the percentage of girls explained 6.54% of the variance in effect sizes. Visual examination of the funnel plot revealed slight asymmetry, but Egger's test indicated no statistically significant proof of publication bias *b*=0.41, *SE*=1.57, *z*=0.26, *p*=0.794.

Results are similar for the association between defending and affective empathy. Sample size *b*=-0.0000, *SE*=0.0000, *z*=0.53, *p*=0.593, 95% CI [-0.000, 0.000], mean age *b*=-0.0066, *SE*=0.0126, *z*=-0.53, *p*=0.599, 95% CI [-0.0314, 0.0181] and the percentage of girls *b*=0.0021, *SE*=0.0029, *z*=0.73, *p*=0.463, 95% CI [-0.0036, 0.0079] were not significant moderators. Based on visual inspection, the funnel plot seems to show some degree of asymmetry. However, Egger's test revealed no significant evidence of publication bias *b*=-0.92, *SE*=1.32, *z*=-0.70, *p*=0.485.

4.5.2. Outsiders

No significant moderators were revealed for the association between the involvement as an outsider and cognitive empathy (sample size: *b*=-0.0011, *SE*=0.0009, *z*=-1.31, *p*=0.192, 95% CI [-0.0029, 0.005], mean age *b*=-0.0488, *SE*=0.0263, *z*=1.85, *p*=0.064, 95% CI [-0.0028, 0.1006], percentage of girls *b*=0.0410, *SE*=0.0323, *z*=1.27, *p*=0.205, 95% CI [-0.0223, 0.1044]). Although not significant, the sample size explained 18.22% of the variance in effect sizes, age explained 39.82% and the percentage of girls 15%. Visual examination of the funnel plot revealed some degree of asymmetry across included research, but the formal regression-based test of Eggar indicated no significant evidence of publication bias *b*=5.39, *SE*=6.94, *z*=0.78, *p*=0.437.

Similarly, no significant moderators were identified for the relationship between the outsider role and affective empathy across the three tested moderators: sample size: *b*=0.0000, *SE*=0.0001, *z*=0.63, *p*=0.529, 95% CI [-0.0001, 0.0002], mean age *b*=0.0263, *SE*=0.0173, *z*=1.52, *p*=0.129, 95% CI [-0.0076, 0.0603] and percentage of girls *b*=0.0088, *SE*=0.0117, *z*=0.76, *p*=0.448, 95% CI [-0.0140, 0.0318]. Only age explained 13.07% of the variance in effect sizes. Visual examination of the funnel plot revealed signs of asymmetry, but Egger's test was not significant, indicating no publication bias *b*=-1.41, *SE*=3.24, *z*=-0.43, *p*=0.665.

4.5.3. Pro-bullies

For the association between involvement as a pro-bully bystander and affective empathy there were no significant moderators: *b*=0.0000, *SE*=0.0000, *z*=0.73, *p*=0.462, 95% CI [-0.0000, 0.0001], mean age *b*=-0.0094, *SE*=0.0090, *z*=-1.04, *p*=0.298, 95% CI [-0.0270, 0.0082] and percentage of girls *b*=-0.0008, *SE*=0.0009, *z*=-0.95, *p*=0.341, 95% CI [-0.0026, 0.0009]. Age explained 18.28% of the variance across effect sizes. Visual inspection of the funnel plot indicated slight asymmetry, but Egger's test for publication bias was not significant *b*=-0.90, *SE*=1.52, *z*=-0.59, *p*=0.552, revealing no publication bias.

5. Discussions

The main aim of the current meta-analysis was to investigate the magnitude of the association between cognitive and affective empathy and three bystander roles: defender, outsider and pro-bully. Second, we tested whether the magnitude of these associations varied across conditions, such as validation of the empathy instrument, self or other informants for the empathy instrument, sample size, mean age, and the percentage of girls. Results confirm that both cognitive and affective empathy are positively related to defending. Outsiders showed a significant negative relationship only with affective empathy, whereas for cognitive empathy, this association was negative and non-significant. The limited number of studies concerning pro-bullies and cognitive empathy was not enough to compute a pooled effect size, therefore results included only associations with affective empathy. These revealed a negative significant association with pro-bully involvement.

5.1. Defenders

Both affective and cognitive empathy were significantly and positively related to defending, although this association was slightly stronger for affective than cognitive empathy. Previous meta-analytic research has also revealed stronger associations between affective empathy and defending than cognitive empathy (Deng et al., 2021; Imuta et al., 2022). However, our correlation coefficients were larger than those reported in previous research. This could be a consequence of including studies that

mostly utilized validated instruments for empathy, thereby obtaining stronger overall associations.

Positive associations between cognitive and affective empathy and defending indicate that higher levels of cognitive and affective empathy are associated with more defending behaviors. Nonetheless, the slight difference between the association with affective versus cognitive empathy is reflected in multiple studies. For example, affective, not cognitive empathy significantly moderated the relationship between victimization and peer defending, suggesting that affective empathy might be a stronger motivator of peer defending than cognitive empathy (Harrison et al., 2025). In another study, affective empathy predicted defending even when the bully's popularity was high (Choi & Park, 2021). In the same sample, children low in affective and high in cognitive empathy reported reduced intention to defend victims when the popularity of the aggressor increased. Improving cognitive empathy through better perspective taking skills is positively related to prosocial behaviors (Cigala et al., 2015) and associated with self-reported prosocial actions (Tamnes et al., 2018). In some studies, cognitive, not affective empathy better predicted defending (Rizkyanti et al., 2021). Cognitive and affective empathy may relate differently to certain steps required to intervene, as presented in the five steps of the bystander intervention model (Latané & Darley, 1970). Fredrick et al. (2020) revealed that affective empathy was related to interpreting the events as emergencies requiring someone to intervene and actually intervening, while cognitive empathy was associated to noticing the act of aggression, accepting responsibility and knowing how to intervene.

Additionally, according to the empathy-altruism hypothesis (Batson et al., 2015) affective empathy in the form of empathic concern produces altruistic motivation. Affective empathy facilitates the understanding that someone else is in need and activates altruistic motivation, respectively the motivation to act in order to increase the wellbeing of another person. The activation of altruistic motivation further leads to an analysis of the advantages or disadvantages of intervening. When the analysis results in more benefits than costs, helping behavior occurs. Even so, affective empathy on its own does not automatically lead to prosocial behavior, it is important for the person who decides whether to help or not to be able to take the perspective of another, thus to demonstrate cognitive empathy.

5.2. Outsiders

Results concerning the association between cognitive, affective empathy and outsider behavior revealed small negative association only for affective empathy. Indeed, most studies have reported negative associations between affective empathy and outsider behavior (Álvarez-García et al., 2021; Camodeca & Coppola, 2016; Yang & Kim, 2017). Results of the studies investigating both types of empathy and outsider behavior are considerably divergent. Some show significant positive associations with affective empathy, specifically empathic concern and negative non-significant associations with cognitive empathy (Belacchi & Benelli, 2020), others non-significant positive results with affective empathy and positive significant results with cognitive empathy (Gini et al., 2008), respectively some obtained negative significant associations with both types of empathy (Pozzoli et al., 2017), while others positive associations with both types of empathy (Rieffe & Camodeca, 2016). However, the results from the current meta-analysis indicate that high affective empathy reduces the chances of being a passive outsider when witnessing bullying behavior. Previous meta-analytic data revealed no significant associations between outsider bystanding and either type of empathy (Imuta et al., 2022). One reason for the lack of significant results for cognitive empathy could be the high levels of variance across the included studies, together with the low number of studies investigating cognitive empathy in outsiders (four studies). Furthermore, referring to the empathy-altruism hypothesis, we would expect that low levels of empathy will not lead to activation of altruistic motivation; and the cost-benefit analysis will show that the act of helping is too disadvantageous to intervene (Batson et al., 2015). Accordingly, outsider behavior was related to empathic distress, suggesting that outsiders tend to have a self-focused orientation (Rieffe & Camodeca, 2016). This is opposite to altruistic motivation, which requires other-orientation (Batson et al., 2015).

5.3. Pro-bullies

Analyses performed for the association between affective empathy and the pro-bully role showed a small significant negative effect. Our results are in line with those obtained by previous meta-analytic research (Imuta et al., 2022) for the bully role and follower of the bully role. Likewise, Zych et al. (2019) identified high levels of empathy as a protective factor against bullying. The only article concerning cognitive empathy in our meta-analysis (Machackova & Pfetsch,

2016) revealed negative associations with both types of empathy, although they were not significant. Similar results were obtained for the bully role with both cognitive and affective empathy (Zych et al., 2019). One potential explanation could be that low empathy is linked to moral disengagement, respectively justifications for aggressive acts, which further predicts bullying perpetration (Kokkinos & Kipritsi, 2018). Meta-analytic data confirm moral disengagement as a predictor of aggressive behaviors (Gini et al., 2014).

5.4. Sensitivity, meta-regression analyses, and small study effects

Sensitivity analyses suggested a limited influence of empathy measurement status (validated or ad-hoc) and informant of the empathy measurement (self or other reported) on these associations. The only notable exception was the minimal improvement in the correlation coefficient for pro-bullies when ad-hoc measures for affective empathy were excluded. The slight improvement in effect sizes when ad-hoc measures of empathy were eliminated reflects how higher levels of heterogeneity among empathy instruments and the use of unstandardized or unvalidated instruments can negatively impact the results (Sesso et al., 2021).

Moreover, no significant moderating effect emerged in either of the investigated associations, and no evidence of publication bias was found. One potential reason for the lack of moderation effects might be related to the lower variance levels between the included studies. Indeed, most studies were based on samples within the same age range, including preadolescents and adolescents, and included similar percentages of girls. The absence of evidence for publication bias allows confidence in the obtained results. However, results based on a small number of studies should be treated with caution.

5.5. Implications, limitations and future directions

The results of the current meta-analysis and systematic review highlight some important theoretical and practical implications. From a theoretical point of view, it is important to regard empathy as a multidimensional construct rather than a singular one. Cognitive and affective empathy appear to have distinct contributions to bystander behavior. Specifically, affective empathy appears to show greater influence on defender, outsider and pro-bully behavior than cognitive empathy does. Practical implications concern anti-bullying interventions, particularly those focused on bystander interventions (Garandeau et al., 2022). In some cases, training based on affective empathy may be more beneficial to bystanders. Further differentiation in training, allowing greater personalization in accordance with bystander role and type of empathy for each child could also lead to better results.

The current study presents several limitations. First, we found no moderation effect on either tested moderation factor. This could mean that the included studies lacked variation, which would be probable considering that empathy for example develops over time (Dorris et al., 2022) and bullying frequency usually peaks at around 13 years (López-Castro et al., 2023). Future studies could investigate different age ranges, empathy and bystander involvement trajectories across childhood and future mete-analytic studies could explore additional moderators, such as cultural differences, socio-economic status or peer dynamic. Secondly, we only included cross-sectional and baseline or first-wave data, therefore directionality and causality between cognitive, affective empathy and bystander behavior cannot be determined. Future longitudinal studies should address these gaps. Lastly, some of the analyses were based on a limited number of studies, which warrants precaution when interpreting the results. Upcoming studies could investigate not only defenders, but also outsiders and pro-bullies, addressing the lack of extensive data concerning these bystander roles.

6. Conclusions

In conclusion, the current meta-analysis provides support for the association between cognitive and affective empathy and bystander behavior. In particular, defending was positively and significantly related to both types of empathy, although the relationship was stronger for affective empathy. Outsider behavior was negatively and significantly related only to affective empathy. There was a small, negative, non-significant association with cognitive empathy. For pro-bully involvement, only affective empathy was assessed, which revealed significant negative associations. Although moderation analyses showed no significant effect, sensitivity analyses indicated limited improvement for outsiders and pro-bullies when ad-hoc measures of empathy were excluded. Overall, our results highlight the importance of discriminating between cognitive and affective empathy in future studies and the need to address multiple bystander roles in addition to defenders.

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Authors note:

Alexandra-Maria Sabou is a PhD candidate at the Doctoral School "Evidence-based assessment and psychological interventions", Babes-Bolyai University. Research interests include the social and emotional development of children and adolescents. Their doctoral research focuses on empathy as an important factor of bystander behavior in bullying, specifically peer defending.

Raluca Diana Georgescu is a researcher at the Department of Rehabilitation Medicine, University of Washington, Seattle, USA, and the Department of General Psychology, University of Padova, Padova, Italy. She specializes in psychological assessment and behavioral psychology. Her work focuses on integrating virtual reality into psychological interventions to reduce acute pain.

Anca Dobrean is a Professor at the Department of Clinical Psychology and Psychotherapy at Babeș-Bolyai University. Her research is committed to developing, investigating, and disseminating evidence-based assessments and interventions for child and adolescent mental health issues, particularly focusing on internalizing problems, ADHD, and the impact of parental contributions to child psychopathology. Additionally, she explores how technology can be leveraged to enhance mental health treatments for children, adolescents, and parents, aiming to improve accessibility and effectiveness of care.

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Appendixes

Appendix A. List of included studies

1. Álvarez-García, D., Thornberg, R., & Suárez-García, Z. (2021). Validation of a Scale for Assessing Bystander Responses in Bullying. *Psicothema*, *33*(4), 623–630. https://doi.org/10.7334/psicothema2021.140
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Appendix B, Table 1. Description of included studies

Nr.	References (first author, year)	Bystander type	Sample size	% of girls	Age (mean /range)	Empathy type	Empathy instrument	Validated/ ad-hoc	Self/ other reported
1.	Álvarez-García, 2021	defender, outsider, pro-bully	1108	48.4	9.39	affective	Six-item scale	ad-hoc	self
2.	Barchia, 2011	defender	1285	53.85	13.32	affective	Adapted BEI	ad-hoc	self
3.	Barhight, 2013	defender	79	50.63	10.8	affective	BES	validated	self
4.	Bellachi, 2012	defender, outsider	188	45.74	4.93	affective, cognitive	IRI	validated	other
5.	Belacchi, 2020	defender, outsider	117	44	9.75	affective, cognitive	Adapted IRI	ad-hoc	self
6.	Camodeca, 2016	defender, outsider	105	51.43	4.85	affective	CCQ	validated	other
7.	Caravita, 2009	defender	461	49.24	10.64	affective, cognitive	HIFDS	validated	self
8.	Correia, 2008	defender	187	48.1	14.51	affective	BEI	validated	self
9.	Eijigu, 2022	defender, outsider	612	56.5	14.97	affective	HIFDS	validated	self
10.	Fredrick, 2020	defender, outsider	324	NA	NA	affective, cognitive	HIFDS	validated	self
11.	Gini, 2008	defender	294	47.2	13.3	affective, cognitive	IRI	validated	self
12.	Gini, 2007	defender	142 / 176	100 / 0	13.2	affective, cognitive	IRI	validated	self
13.	Harrison, 2025	defender	788	49.6	15.5	affective, cognitive	IRI	validated	self
14.	Lambe, 2020	defender	334	50	11-14	affective, cognitive	IRI	validated	self

Nr.	References (first author, year)	Bystander type	Sample size	% of girls	Age (mean /range)	Empathy type	Empathy instrument	Validated/ ad-hoc	Self/ other reported
15.	Lambe 2023	defender	120	49	12.3	affective	IRI	validated	self
16.	Lucas-Molina, 2018	defender, outsider	2050	50.8	9.8	affective	BEI	validated	self
17.	Machackova, 2016	defender, pro-bully	321	44	14.99	affective, cognitive	BES	validated	self
18.	Malin, 2023	defender, outsider, pro-bully	394	64.72	16.81	affective	ERQ	validated	self
19.	Menolascino, 2018	defender	179 / 167	100 / 0	NA	affective, cognitive	HIFDS	validated	self
20.	Nickerson, 2014	defender, outsider	262	53.8	12.23	affective	ERQ	validated	self
21.	Peets, 2015	defender	6708	51	11	affective, cognitive	Seven-item scale	ad-hoc	self
22.	Poyhonen, 2010	defender	461	52.56	12.29	affective, cognitive	HIFDS	validated	self
23.	Pozzoli, 2017	defender, outsider	398	47.23	12.25	affective, cognitive	IRI, TEA	validated	self
24.	Raboteg-Šarić, 2019	defender, pro-bully	325	51.38	12.95	affective	EES	validated	self
25.	Rieffe, 2016	defender, outsider	182	53.29	13.4	affective, cognitive	IRI	validated	self
26.	Tang 2025	defender	994	45.87	13.34	affective, cognitive	Chinese version of BES	validated	self
27.	Troop-Gordon, 2019	pro-bully	239 / 245	100 / 0	10.25	affective	BEI	validated	self
28.	Valdés-Cuervo, 2018	defender	1224	54.1	13.5	affective	AMES	validated	self
29.	Wang, 2023	defender	1239	46.9	11.4	affective, cognitive	BES	validated	self
30.	Xie, 2020	defender, outsider, pro-bully	1286	46.5	NA	affective	ERQ	validated	self
31.	Yang, 2017	defender, outsider, pro-bully	416	49.8	NA	affective	Adapted BEI	ad-hoc	self
32.	Yun, 2018	defender	545 / 828	100 / 0	14	affective, cognitive	IRI	validated	self

Note: NA = data not available. Empathy instruments: AMES - The Adolescent Measure of Empathy and Sympathy; BEI - Bryant Empathy Index; BES - Basic Empathy Scale; CCQ - The California Child Q-Sort; EES - The Emotional Empathy Scale; ERQ - Empathic Responsiveness Questionnaire; HIFDS - How I Feel in Different Situations Scale; IRI - Interpersonal Reactivity Index; TEA- Trait Empathic Anger.

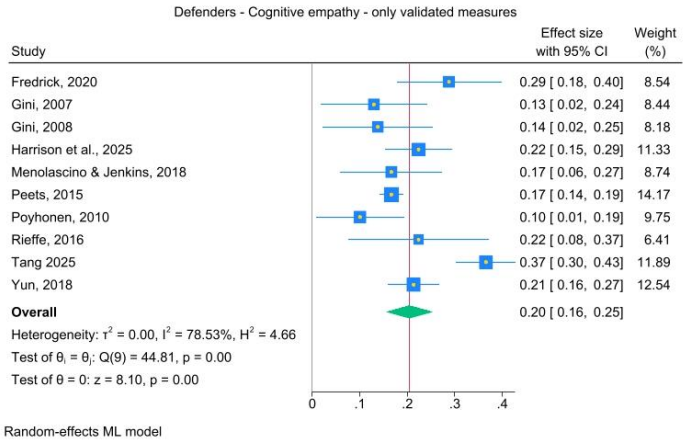
Appendix C. Table 2. Assessment of Study Quality

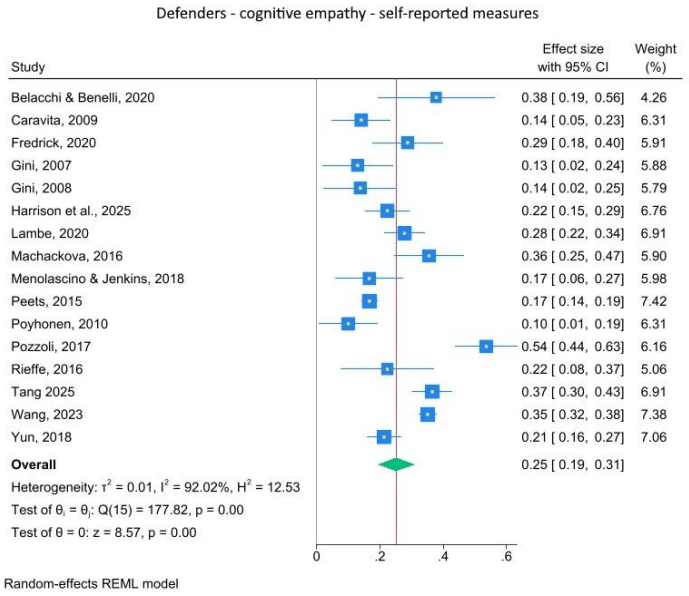
Nr.	References (first author, year)	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Total YES	Total percentage*	Category
1	Álvarez-García, 2021	YES	YES	CD	YES	YES	NO	NO	YES	YES	NA	YES	NA	NA	YES	8	73	Fair
2	Barchia, 2011	YES	YES	CD	YES	YES	YES	YES	YES	YES	YES	YES	NA	YES	YES	12	92	Good
3	Barhight, 2013	YES	YES	YES	YES	NO	NO	NO	YES	YES	NA	YES	NA	NA	YES	8	73	Fair
4	Bellachi, 2012	YES	YES	CD	YES	YES	NO	NO	YES	YES	NA	YES	NA	NA	YES	8	73	Fair
5	Belacchi, 2020	YES	YES	CD	YES	NO	NO	NO	YES	YES	NA	YES	NA	NA	YES	7	64	Fair
6	Camodeca, 2016	YES	YES	CD	YES	NO	NO	NO	YES	YES	NA	YES	NA	NA	YES	7	64	Fair
7	Caravita, 2009	YES	YES	CD	YES	NO	NO	NO	YES	YES	NA	YES	NA	NA	YES	7	64	Fair
8	Correia, 2008	YES	YES	CD	YES	NO	NO	NO	YES	YES	NA	YES	NA	NA	YES	7	64	Fair
9	Eijigu, 2022	YES	YES	CD	YES	YES	NO	NO	YES	YES	NA	YES	NA	NA	YES	8	73	Fair
10	Fredrick, 2020	YES	YES	CD	YES	NO	NO	NO	YES	YES	NA	YES	NA	NA	YES	7	64	Fair
11	Gini, 2008	YES	YES	CD	YES	NO	NO	NO	YES	YES	NA	YES	NA	NA	YES	7	64	Fair
12	Gini, 2007	YES	YES	CD	YES	NO	NO	NO	YES	YES	NA	YES	NA	NA	YES	7	64	Fair

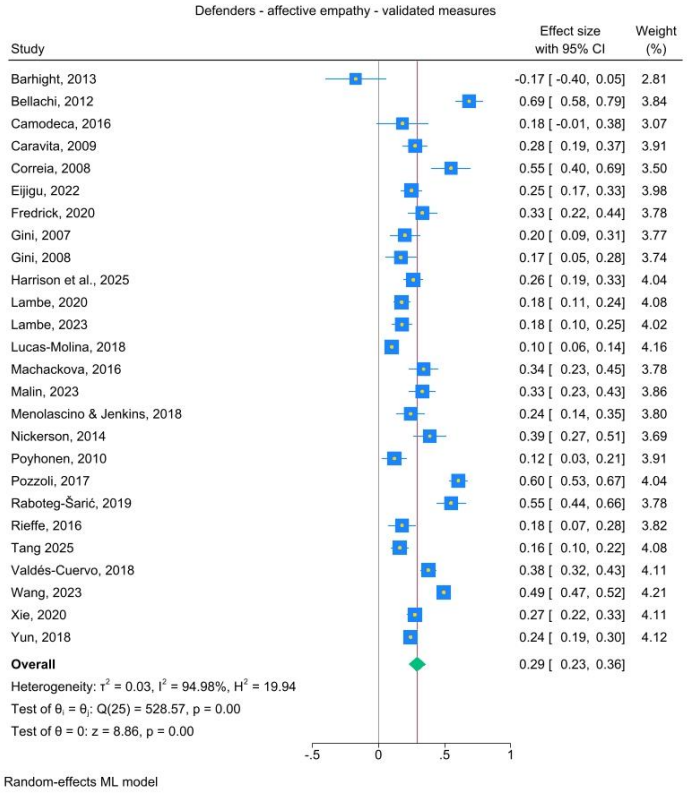
13	Harrison, 2025	YES	YES	NO	YES	YES	NO	NO	YES	YES	NA	YES	NA	NA	YES	8	73	Fair
14	Lambe, 2020	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	NA	YES	YES	13	100	Good
15	Lambe 2023	YES	YES	CD	YES	YES	NO	NO	YES	YES	NA	YES	NA	NA	YES	8	73	Fair
16	Lucas-Molina, 2018	YES	YES	CD	YES	YES	NO	NO	YES	YES	NA	YES	NA	NA	YES	8	73	Fair
17	Machackova, 2016	YES	YES	CD	YES	NO	NO	NO	YES	YES	NA	YES	NA	NA	YES	7	64	Fair
18	Malin, 2023	YES	YES	CD	YES	YES	NO	NO	YES	YES	NA	YES	NA	NA	YES	8	73	Fair
19	Menolascino, 2018	YES	YES	CD	YES	NO	NO	NO	YES	YES	NA	YES	NA	NA	YES	7	64	Fair
20	Nickerson, 2014	YES	YES	NO	YES	YES	NO	NO	YES	YES	NA	YES	NA	NA	YES	8	73	Fair
21	Peets, 2015	YES	YES	YES	YES	YES	NO	NO	YES	YES	NA	YES	NA	NA	YES	9	82	Good
22	Poyhonen, 2010	YES	YES	YES	YES	NO	NO	NO	YES	YES	NA	YES	NA	NA	YES	8	73	Fair
23	Pozzoli, 2017	YES	YES	CD	YES	NO	NO	NO	YES	YES	NA	YES	NA	NA	YES	7	64	Fair
24	Raboteg-Šarić, 2019	YES	YES	CD	YES	NO	NO	NO	YES	YES	NA	YES	NA	NA	YES	7	64	Fair
25	Rieffe, 2016	YES	YES	CD	YES	NO	NO	NO	YES	YES	NA	YES	NA	NA	YES	7	64	Fair
26	Tang 2025	YES	YES	YES	YES	NO	NO	NO	YES	YES	NA	YES	NA	NA	YES	8	73	Fair
27	Troop-Gordon, 2019	YES	YES	YES	YES	NO	YES	YES	YES	YES	YES	YES	NA	YES	YES	12	92	Good
28	Valdés-Cuervo, 2018	YES	YES	YES	YES	NO	NO	NO	YES	YES	NA	YES	NA	NA	YES	8	73	Fair
29	Wang, 2023	YES	YES	CD	YES	YES	YES	YES	YES	YES	NO	YES	NA	NA	YES	10	83	Good
30	Xie, 2020	YES	YES	YES	YES	YES	NO	NO	YES	YES	NA	YES	NA	NA	YES	9	82	Good
31	Yang, 2017	YES	YES	NO	YES	YES	NO	NO	YES	YES	NA	YES	NA	NA	YES	8	73	Fair
32	Yun, 2018	YES	YES	CD	YES	NO	NO	NO	YES	YES	NA	YES	NA	NA	YES	7	64	Fair

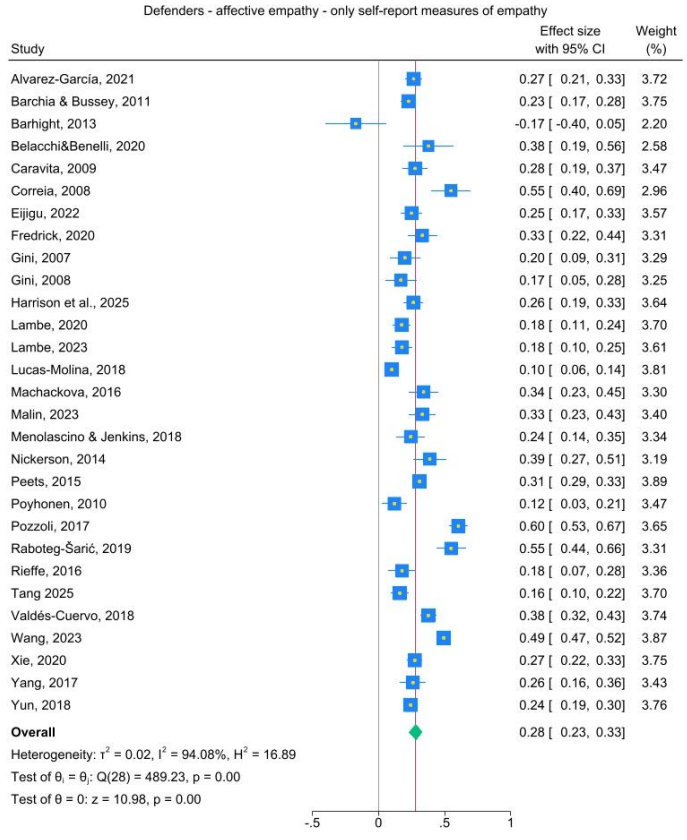
Note: NA – question not applicable; CD – could not determine answer from available data; * NA answers were not taken into account when calculating the percentage. Quality categories were determined as follows: Good (≥ 75%), Fair (50–75%), Poor (≤ 50%); Q1: Was the research question or objective in this paper clearly stated?; Q2: Was the study population clearly specified and defined?; Q3: Was the participation rate of eligible persons at least 50%?; Q4: Were all the subjects selected or recruited from the same or similar populations (including the same time period)? Were inclusion and exclusion criteria for being in the study prespecified and applied uniformly to all participants?; Q5: Was a sample size justification, power description, or variance and effect estimates provided?; Q6: For the analyses in this paper, were the exposure(s) of interest measured prior to the outcome(s) being measured?; Q7: Was the timeframe sufficient so that one could reasonably expect to see an association between exposure and outcome if it existed?; Q8: For exposures that can vary in amount or level, did the study examine different levels of the exposure as related to the outcome (e.g., categories of exposure, or exposure measured as a continuous variable)?; Q9: Were the exposure measures (independent variables) clearly defined, valid, reliable, and implemented consistently across all study participants?; Q10: Was the exposure(s) assessed more than once over time?; Q11: Were the outcome measures (dependent variables) clearly defined, valid, reliable, and implemented consistently across all study participants?; Q12: Were the outcome assessors blinded to the exposure status of participants?; Q13: Was loss to follow-up after baseline 20% or less?; Q14: Were key potential confounding variables measured and adjusted statistically for their impact on the relationship between exposure(s) and outcome(s)?.

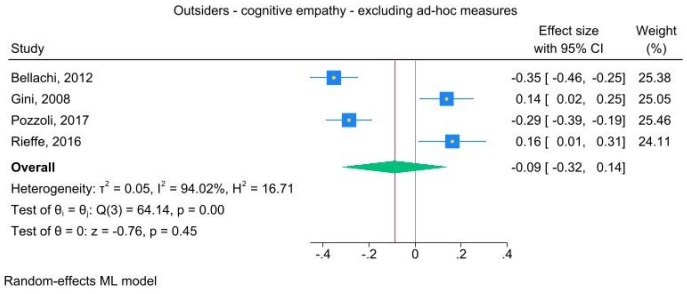
Appendix D. Forest plots for each subgroup analysis

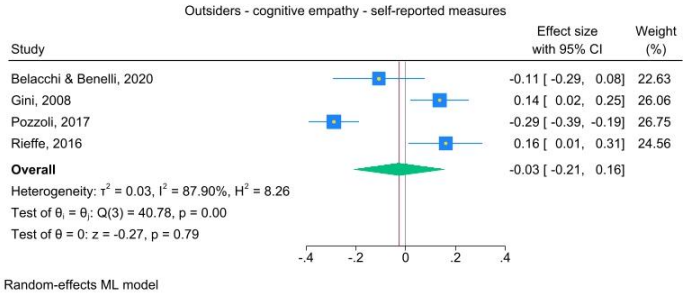


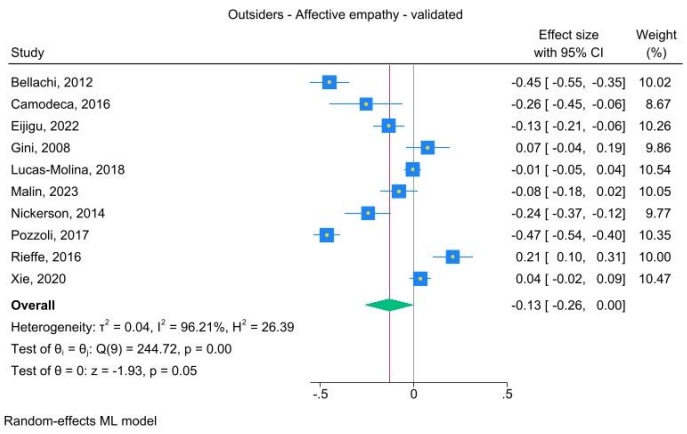


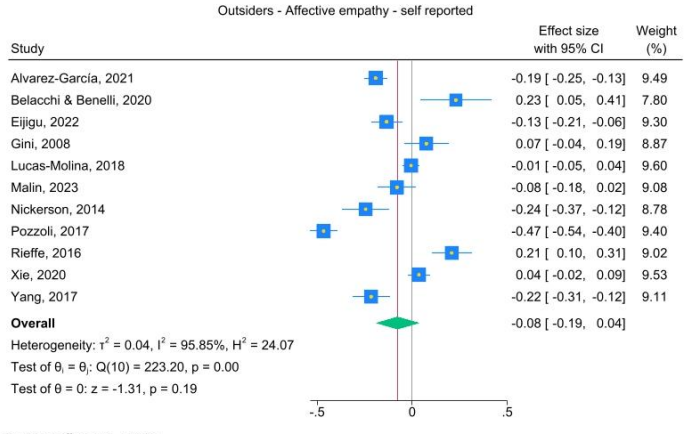

Defenders - affective empathy - validated measures
Study
Effect size with 95% CI
Weight (%)
Barhight, 2013 -0.17 [-0.40, 0.05] 2.81
Bellachi, 2012 0.69 [0.58, 0.79] 3.84
Camodeca, 2016 0.18 [-0.01, 0.38] 3.07
Caravita, 2009 0.28 [0.19, 0.37] 3.91
Correia, 2008 0.55 [0.40, 0.69] 3.50
Eijigu, 2022 0.25 [0.17, 0.33] 3.98
Fredrick, 2020 0.33 [0.22, 0.44] 3.78
Gini, 2007 0.20 [0.09, 0.31] 3.77
Gini, 2008 0.17 [0.05, 0.28] 3.74
Harrison et al., 2025 0.26 [0.19, 0.33] 4.04
Lambe, 2020 0.18 [0.11, 0.24] 4.08
Lambe, 2023 0.18 [0.10, 0.25] 4.02
Lucas-Molina, 2018 0.10 [0.06, 0.14] 4.16
Machackova, 2016 0.34 [0.23, 0.45] 3.78
Malin, 2023 0.33 [0.23, 0.43] 3.86
Menolascino & Jenkins, 2018 0.24 [0.14, 0.35] 3.80
Nickerson, 2014 0.39 [0.27, 0.51] 3.69
Poyhonen, 2010 0.12 [0.03, 0.21] 3.91
Pozzoli, 2017 0.60 [0.53, 0.67] 4.04
Raboteg-Šarić, 2019 0.55 [0.44, 0.66] 3.78
Rieffe, 2016 0.18 [0.07, 0.28] 3.82
Tang 2025 0.16 [0.10, 0.22] 4.08
Valdés-Cuervo, 2018 0.38 [0.32, 0.43] 4.11
Wang, 2023 0.49 [0.47, 0.52] 4.21
Xie, 2020 0.27 [0.22, 0.33] 4.11
Yun, 2018 0.24 [0.19, 0.30] 4.12
Overall 0.29 [0.23, 0.36]
Heterogeneity: τ² = 0.03, I² = 94.98%, H² = 19.94
Test of θi = θj: Q(25) = 528.57, p = 0.00
Test of θ = 0: z = 8.86, p = 0.00
-.5 0 .5 1
Random-effects ML model

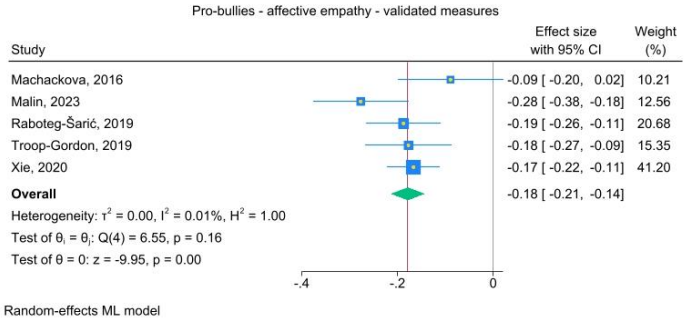

Defenders - affective empathy - only self-report measures of empathy
Study
Effect size with 95% CI
Weight (%)
Alvarez-García, 2021 0.27 [0.21, 0.33] 3.72
Barchia & Bussey, 2011 0.23 [0.17, 0.28] 3.75
Barhight, 2013 -0.17 [-0.40, 0.05] 2.20
Belacchi&Benelli, 2020 0.38 [0.19, 0.56] 2.58
Caravita, 2009 0.28 [0.19, 0.37] 3.47
Correia, 2008 0.55 [0.40, 0.69] 2.96
Eijigu, 2022 0.25 [0.17, 0.33] 3.57
Fredrick, 2020 0.33 [0.22, 0.44] 3.31
Gini, 2007 0.20 [0.09, 0.31] 3.29
Gini, 2008 0.17 [0.05, 0.28] 3.25
Harrison et al., 2025 0.26 [0.19, 0.33] 3.64
Lambe, 2020 0.18 [0.11, 0.24] 3.70
Lambe, 2023 0.18 [0.10, 0.25] 3.61
Lucas-Molina, 2018 0.10 [0.06, 0.14] 3.81
Machackova, 2016 0.34 [0.23, 0.45] 3.30
Malin, 2023 0.33 [0.23, 0.43] 3.40
Menolascino & Jenkins, 2018 0.24 [0.14, 0.35] 3.34
Nickerson, 2014 0.39 [0.27, 0.51] 3.19
Peets, 2015 0.31 [0.29, 0.33] 3.89
Poyhonen, 2010 0.12 [0.03, 0.21] 3.47
Pozzoli, 2017 0.60 [0.53, 0.67] 3.65
Raboteg-Šarić, 2019 0.55 [0.44, 0.66] 3.31
Rieffe, 2016 0.18 [0.07, 0.28] 3.36
Tang 2025 0.16 [0.10, 0.22] 3.70
Valdés-Cuervo, 2018 0.38 [0.32, 0.43] 3.74
Wang, 2023 0.49 [0.47, 0.52] 3.87
Xie, 2020 0.27 [0.22, 0.33] 3.75
Yang, 2017 0.26 [0.16, 0.36] 3.43
Yun, 2018 0.24 [0.19, 0.30] 3.76
Overall 0.28 [0.23, 0.33]
Heterogeneity: τ² = 0.02, I² = 94.08%, H² = 16.89
Test of θi = θj: Q(28) = 489.23, p = 0.00
Test of θ = 0: z = 10.98, p = 0.00
-.5 0 .5 1
Random-effects ML model

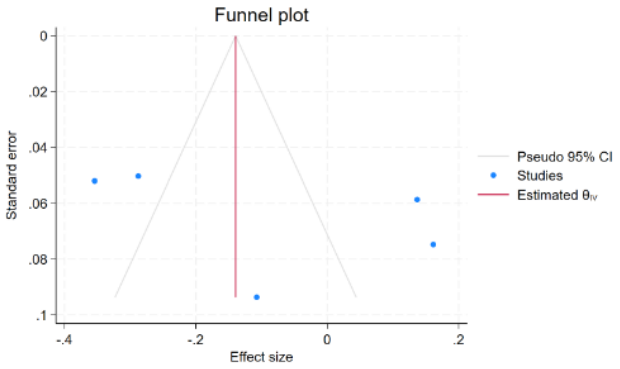

Outsiders - cognitive empathy - excluding ad-hoc measures
Study
Effect size with 95% CI
Weight (%)
Bellachi, 2012 -0.35 [-0.46, -0.25] 25.38
Gini, 2008 0.14 [0.02, 0.25] 25.05
Pozzoli, 2017 -0.29 [-0.39, -0.19] 25.46
Rieffe, 2016 0.16 [0.01, 0.31] 24.11
Overall -0.09 [-0.32, 0.14]
Heterogeneity: τ² = 0.05, I² = 94.02%, H² = 16.71
Test of θi = θj: Q(3) = 64.14, p = 0.00
Test of θ = 0: z = -0.76, p = 0.45
-.4 -.2 0 .2 .4
Random-effects ML model


Outsiders - cognitive empathy - self-reported measures
Study
Effect size with 95% CI
Weight (%)
Belacchi & Benelli, 2020 -0.11 [-0.29, 0.08] 22.63
Gini, 2008 0.14 [0.02, 0.25] 26.06
Pozzoli, 2017 -0.29 [-0.39, -0.19] 26.75
Rieffe, 2016 0.16 [0.01, 0.31] 24.56
Overall -0.03 [-0.21, 0.16]
Heterogeneity: τ² = 0.03, I² = 87.90%, H² = 8.26
Test of θi = θj: Q(3) = 40.78, p = 0.00
Test of θ = 0: z = -0.27, p = 0.79
-.4 -.2 0 .2 .4
Random-effects ML model


Outsiders - Affective empathy - validated
Study
Effect size with 95% CI
Weight (%)
Bellachi, 2012 -0.45 [-0.55, -0.35] 10.02
Camodeca, 2016 -0.26 [-0.45, -0.06] 8.67
Eijigu, 2022 -0.13 [-0.21, -0.06] 10.26
Gini, 2008 0.07 [-0.04, 0.19] 9.86
Lucas-Molina, 2018 -0.01 [-0.05, 0.04] 10.54
Malin, 2023 -0.08 [-0.18, 0.02] 10.05
Nickerson, 2014 -0.24 [-0.37, -0.12] 9.77
Pozzoli, 2017 -0.47 [-0.54, -0.40] 10.35
Rieffe, 2016 0.21 [0.10, 0.31] 10.00
Xie, 2020 0.04 [-0.02, 0.09] 10.47
Overall -0.13 [-0.26, 0.00]
Heterogeneity: τ² = 0.04, I² = 96.21%, H² = 26.39
Test of θi = θj: Q(9) = 244.72, p = 0.00
Test of θ = 0: z = -1.93, p = 0.05
-.5 0 .5
Random-effects ML model

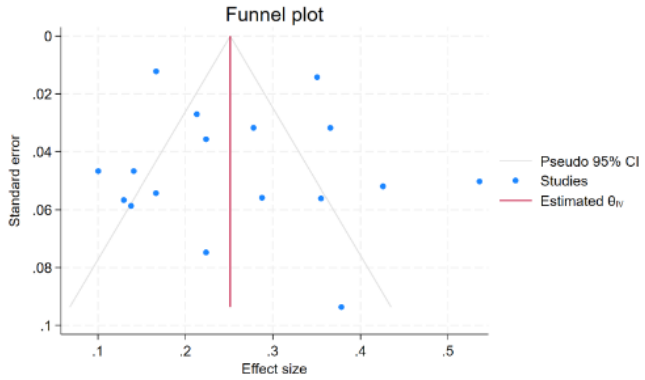

Outsiders - Affective empathy - self reported
Study
Effect size with 95% CI
Weight (%)
Alvarez-García, 2021 -0.19 [-0.25, -0.13] 9.49
Belacchi & Benelli, 2020 0.23 [0.05, 0.41] 7.80
Eijigu, 2022 -0.13 [-0.21, -0.06] 9.30
Gini, 2008 0.07 [-0.04, 0.19] 8.87
Lucas-Molina, 2018 -0.01 [-0.05, 0.04] 9.60
Malin, 2023 -0.08 [-0.18, 0.02] 9.08
Nickerson, 2014 -0.24 [-0.37, -0.12] 8.78
Pozzoli, 2017 -0.47 [-0.54, -0.40] 9.40
Rieffe, 2016 0.21 [0.10, 0.31] 9.02
Xie, 2020 0.04 [-0.02, 0.09] 9.53
Yang, 2017 -0.22 [-0.31, -0.12] 9.11
Overall -0.08 [-0.19, 0.04]
Heterogeneity: τ² = 0.04, I² = 95.85%, H² = 24.07
Test of θi = θj: Q(10) = 223.20, p = 0.00
Test of θ = 0: z = -1.31, p = 0.19
-.5 0 .5
Random-effects ML model



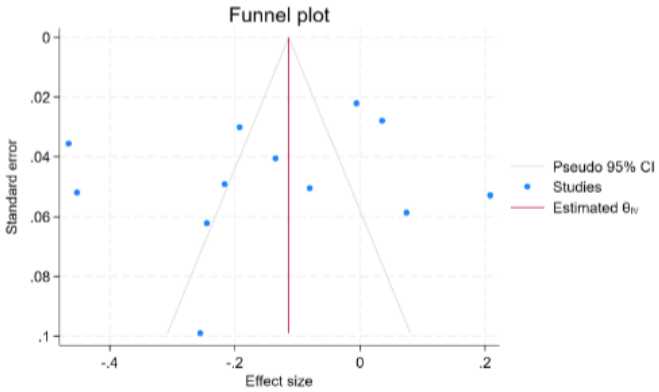


Appendix D. Forest plots for each subgroup analysis

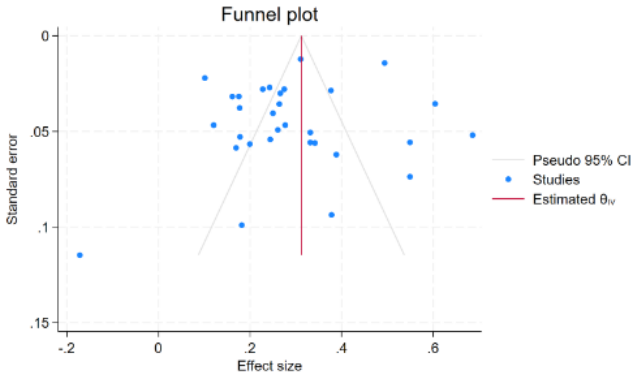
Cognitive empathy and defending



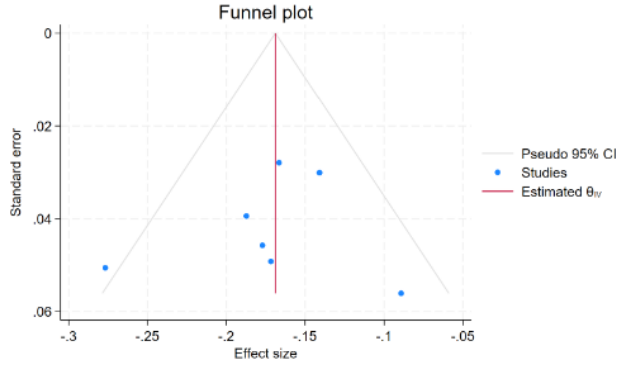
Affective empathy and outsider involvement



Affective empathy and pro-bully involvement



Cognitive empathy and outsider involvement



Appendix F. List of excluded articles with arguments

Article	Argument
Abbott, N., & Cameron, L. (2014). What makes a young assertive bystander? the effect of intergroup contact, empathy, cultural openness, and in-group bias on assertive bystander intervention intentions. *Journal of Social Issues*, 70(1), 167–182. https://doi.org/10.1111/josi.12053	Outcome not of interest
Albert, A. B., Jacobs, H. E., & Siperstein, G. N. (2016). Sticks, stones, and stigma: Student bystander behavior in response to hearing the word "retard." *Intellectual and Developmental Disabilities*, 54(6), 391–401. https://doi.org/10.1352/1934-9556-54.6.391	Outcome not of interest
Almeida, A., Correia, I., & Marinho, S. (2009). Moral disengagement, normative beliefs of peer group, and attitudes regarding roles in bullying. *Journal of School Violence*, 9(1), 23–36. https://doi.org/10.1080/15388220903185639	Not actual defending

António, R., Guerra, R., & Moleiro, C. (2017). Having friends with gay friends? The role of extended contact, empathy and threat on assertive bystanders` behavioral intentions. *PSICOLOGIA*, 31(2), 15–24. https://doi.org/10.17575/rpsicol.v31i2.1138	Not actual defending
António, R., Guerra, R., Cameron, L., & Moleiro, C. (2022). Imagined and extended contact experiences and adolescent bystanders' behavioral intentions in homophobic bullying episodes. *Aggressive Behavior*, 49(2), 110–126. https://doi.org/10.1002/ab.22059	Not actual defending
Ayhan, S., & Gönültaş, S. (2024). Bystander responses in five-steps: Paving road to prosocial intervention to social exclusion through social-cognition. *British Journal of Developmental Psychology*, 42(4), 517–523. https://doi.org/10.1111/bjdp.12513	Outcome not of interest
Bao, Z., Liu, H., & Wang, F. (2024). Patterns of defender behaviors and outsider behaviors in school bullying among Chinese adolescents: Based on Latent Profile Analysis. *Current Psychology*, 43(44), 33817–33827. https://doi.org/10.1007/s12144-024-06870-0	Mismatched sample
Barhight, L. R., Hubbard, J. A., Grassetti, S. N., & Morrow, M. T. (2017). Relations between actual group norms, perceived peer behavior, and bystander children's intervention to bullying. *Journal of Clinical Child & Adolescent Psychology*, 46(3), 394–400. https://doi.org/10.1080/15374416.2015.1046180	Outcome not of interest
Barlińska, J., Szuster, A., & Winiewski, M. (2013). Cyberbullying among adolescent bystanders: Role of the Communication Medium, form of violence, and empathy. *Journal of Community & Applied Social Psychology*, 23(1), 37–51. https://doi.org/10.1002/casp.2137	Cyberbullying
Moreno-Bataller, C.-B., Segatore-Pittón, M.-E., & Tabullo-Tomas, Á.-J. (2019). Empathy, prosocial behavior and bullying. The actions of the bystanders. *Estudios Sobre Educación*, 37, 113–134. https://doi.org/10.15581/004.37.113-134	Different language
Bauman, S., Yoon, J., Iurino, C., & Hackett, L. (2020). Experiences of adolescent witnesses to peer victimization: The bystander effect. *Journal of School Psychology*, 80, 1–14. https://doi.org/10.1016/j.jsp.2020.03.002	Outcome not of interest
Belacchi, C. (2008). I ruoli dei partecipanti nel bullismo: una nuova proposta. *Giornale italiano di Psicologia*, 35(4), 885-912.	Different language
Bellmore, A., Ma, T., You, J., & Hughes, M. (2012). A two-method investigation of early adolescents' responses upon witnessing peer victimization in school. *Journal of Adolescence*, 35(5), 1265–1276. https://doi.org/10.1016/j.adolescence.2012.04.012	Not actual defending
Bengtsson, H., & Persson, G. E. (2007). Young children's representations of peers' distress: Associations to children's social functioning and acceptance of distressed peers. *Scandinavian Journal of Psychology*, 48(3), 203–213. https://doi.org/10.1111/j.1467-9450.2007.00559.x	No bystander role
Brennan, A., Manghan, C., Redfern, S., Dempsey, M., & McAvoy, J. (2023). Through a gender lens: A pilot game for young children to enhance bullying awareness and encourage the adoption of the defender role. *Springer Science and Business Media Deutschland GmbH*. https://doi.org/10.2139/ssrn.4359329	Conference, presentation, thesis
Byers, D. S. (2016). Recognition of social pain among peers: Rethinking the role of bystanders in bullying and cyberbullying. *Smith College Studies in Social Work*, 86(4), 335–354. https://doi.org/10.1080/00377317.2016.1222771	Not actual defending
Cappadocia, C. M., Pepler, D., Cummings, J. G., & Craig, W. (2012). Individual motivations and characteristics associated with bystander intervention during bullying episodes among children and youth. *Canadian Journal of School Psychology*, 27(3), 201–216. https://doi.org/10.1177/0829573512450567	Insufficient data for main analysis
Chaux, E., Velásquez, A. M., Schultze-Krumbholz, A., & Scheithauer, H. (2016). Effects of the cyberbullying prevention program media heroes (*Medienhelden*) on traditional bullying. *Aggressive Behavior*, 42(2), 157–165. https://doi.org/10.1002/ab.21637	Outcome not of interest
Choi, B., & Park, S. (2021). When empathy leads to passive bystanding or defending of the victim in a bullying situation: Interaction with the perceived popularity of the bully. *Educational Researcher*, 50(5), 276–289. https://doi.org/10.3102/0013189x20982559	Not actual defending
Choi, S., & Cho, Y. I. (2012). Influence of psychological and social factors on bystanders' roles in school bullying among Korean-American students in the United States. *School Psychology International*, 34(1), 67–81. https://doi.org/10.1177/0143034311430406	Outcome not of interest
Cocco, V. M., Bisagno, E., Visintin, E. P., Cadamuro, A., Di Bernardo, G. A., Shamloo, S. E., Trifiletti, E., Molinari, L., & Vezzali, L. (2023). Once upon a time…: Using fairy tales as a form of vicarious contact to prevent stigma-based bullying among schoolchildren. *Journal of Community & Applied Social Psychology*, 33(2), 186–201. https://doi.org/10.1002/casp.2597	Not actual defending

Martinac Dorčić, T., Smojver-Ažić, S., Rončević Zubković, B., & Kolić-Vehovec, S. (2019). Determinants of helping the victim in situations of peer violence. *Psihologijske Teme*, 28(3), 681–700. https://doi.org/10.31820/pt.28.3.12	Different language
Fonagy, P., Twemlow, S. W., Vernberg, E. M., Nelson, J. M., Dill, E. J., Little, T. D., & Sargent, J. A. (2009). A cluster randomized controlled trial of child-focused psychiatric consultation and a school systems-focused intervention to reduce aggression. *Journal of Child Psychology and Psychiatry*, 50(5), 607–616. https://doi.org/10.1111/j.1469-7610.2008.02025.x	Insufficient data for main analysis
Gaete, J., Valenzuela, D., Rojas-Barahona, C., Valenzuela, E., Araya, R., & Salmivalli, C. (2017). The Kiva antibullying program in primary schools in Chile, with and without the Digital Game Component: Study Protocol for a randomized controlled trial. *Trials*, 18(1). https://doi.org/10.1186/s13063-017-1810-1	Outcome not of interest
Garandeau, C. F., Laninga-Wijnen, L., & Salmivalli, C. (2021). Effects of the kiva anti-bullying program on Affective and Cognitive Empathy in children and adolescents. *Journal of Clinical Child & Adolescent Psychology*, 51(4), 515–529. https://doi.org/10.1080/15374416.2020.1846541	Not actual defending
Garandeau, C. F., Turunen, T., Saarento-Zaprudin, S., & Salmivalli, C. (2023). Effects of the kiva anti-bullying program on defending behavior: Investigating individual-level mechanisms of change. *Journal of School Psychology*, 99, 101226. https://doi.org/10.1016/j.jsp.2023.101226	Overlapping dataset
Gini, G., Albiero, P., & Benelli, B. (2005). Relazione tra bullismo, empatia ed autoefficacia percepita in un campione di adolescenti. *Psicologia clinica dello sviluppo*, 9(3), 457-472.	Different language
Gönültaş, S., Mulvey, K. L., Irdam, G., Goff, E., Irvin, M. J., Carlson, R., & DiStefano, C. (2019). The role of social-emotional factors in bystanders' judgments and responses to peer aggression and following retaliation in adolescence. *Journal of Emotional and Behavioral Disorders*, 28(4), 195–208. https://doi.org/10.1177/1063426619870492	Not actual defending
Gönültaş, S., Yavuz, H. M., & Mulvey, K. L. (2021). Should I invite them? bystanders' inclusivity judgements towards outgroup victims and ingroup bullies in intergroup bullying. *Journal of Community & Applied Social Psychology*, 33(2), 221–235. https://doi.org/10.1002/casp.2567	Not actual defending
Gönültaş, S., & Mulvey, K. L. (2022). Do adolescents intervene in intergroup bias-based bullying? bystander judgments and responses to intergroup bias-based bullying of refugees. Journal of Research on Adolescence, 33(1), 4–23. https://doi.org/10.1111/jora.12752	Not actual defending
Gutzwiller-Helfenfinger, E., & Perren, S. (2020). Tempted to join in or not? moral temptation and self-reported behaviour in bullying situations. *British Journal of Developmental Psychology*, 39(1), 98–124. https://doi.org/10.1111/bjdp.12348	Mismatched sample
Haddock, A. D., & Jimerson, S. R. (2017). An examination of differences in moral disengagement and empathy among bullying participant groups. *Journal of Relationships Research*, 8. https://doi.org/10.1017/jrr.2017.15	Insufficient data for main analysis
Han, Y.-K., Song, A., & Um, S. J. (2021). Implementation and evaluation of the Youth Police Academy School Bullying Prevention Program in South Korea. *International Journal of Educational Research*, 110, 101881. https://doi.org/10.1016/j.ijer.2021.101881	Outcome not of interest
Solís, I. H., & Cabrero, B. G. (2014). Variables emocionales y sociomorales asociadas con el tipo de rol que asumen los alumnos y alumnas en el maltrato entre iguales. *Apuntes de Psicología*, 32(1), 15-23.	Different language
Hektner, J. M., & Swenson, C. A. (2011). Links from teacher beliefs to peer victimization and bystander intervention. *The Journal of Early Adolescence*, 32(4), 516–536. https://doi.org/10.1177/0272431611402502	Not actual defending
Hernández, G. B., Noriega, J. A., & Quintana, J. T. (2019). Shame, empathy, coping and school safety of the bystanders in situations of bullying. *Temas Em Psicologia*, 27(2), 357–369. https://doi.org/10.9788/tp2019.2-05	Insufficient data for main analysis
Hernández, G. B., Noriega, J. Á. V., & Quintana, J. T. (2024). Prosocial behavior, moral disengagement and empathy in bystanders in school violence situations. Psykhe, 33(1), 1-15.	Different language
Ingram, K. M., Espelage, D. L., Merrin, G. J., Valido, A., Heinhorst, J., & Joyce, M. (2019). Evaluation of a virtual reality enhanced bullying prevention curriculum pilot trial. *Journal of Adolescence*, 71(1), 72–83. https://doi.org/10.1016/j.adolescence.2018.12.006	Not actual defending
Ingram, K. M., Davis, J. P., Espelage, D. L., Hatchel, T., Merrin, G. J., Valido, A., & Torgal, C. (2019). Longitudinal associations between features of toxic masculinity and bystander willingness to intervene in bullying among middle school boys. *Journal of School Psychology*, 77, 139–151. https://doi.org/10.1016/j.jsp.2019.10.007	Not actual defending
Janošová, P., Kollerová, L., & Soukup, P. (2018). Personality traits and defending victims of bullying: Agreeableness, neuroticism and extraversion matter. *Československá Psychologie*, 62(5).	Mismatched sample

Jenkins, L. N., & Nickerson, A. B. (2017). Bystander intervention in bullying: Role of social skills and gender. *The Journal of Early Adolescence*, 39(2), 141–166. https://doi.org/10.1177/0272431617735652	Outcome not of interest
Jenkins, L. N., Demaray, M. K., Fredrick, S. S., & Summers, K. H. (2014). Associations among middle school students' bullying roles and social skills. *Journal of School Violence*, 15(3), 259–278. https://doi.org/10.1080/15388220.2014.986675	Outcome not of interest
Jenkins, L. N., Demaray, M. K., & Tennant, J. (2017). Social, emotional, and cognitive factors associated with bullying. *School Psychology Review*, 46(1), 42–64. https://doi.org/10.1080/02796015.2017.12087609	Outcome not of interest
Joo, H., Kim, I., Kim, S. R., Carney, J. V., & Chatters, S. J. (2020). Why witnesses of bullying tell: Individual and interpersonal factors. *Children and Youth Services Review*, 116, 105198. https://doi.org/10.1016/j.childyouth.2020.105198	Not actual defending
Kim, M. J., Lee, J. W., & Kim, D. M. (2013). The effects of affective empathy, self-efficacy and social responsibility on defending behaviors in bullying: focused on the moderating effects of perceived popularity. *Journal of Asia Pacific Counseling*, 3(2) https://doi.org/10.18401/2013.3.2.3	Insufficient data for main analysis
Knauf, R.-K., & Eschenbeck, H. (2025). School bullying and cyberbullying – associations of student's roles with social-cognitive and affective reactions. *Social Psychology of Education*, 28(1). https://doi.org/10.1007/s11218-024-09969-1	Outcome not of interest
Knauf, R.-K., Eschenbeck, H., & Hock, M. (2018). Bystanders of bullying: Social-cognitive and affective reactions to school bullying and cyberbullying. *Cyberpsychology: Journal of Psychosocial Research on Cyberspace*, 12(4). https://doi.org/10.5817/cp2018-4-3	Not actual defending
Knox, J. L., Gönültaş, S., Gibson, S. M., & Mulvey, K. L. (2022). Relations between parental attachment, empathy, and bystander help-seeking preference following peer aggression. *Journal of Child and Family Studies*, 31(9), 2401–2411. https://doi.org/10.1007/s10826-022-02312-2	Not actual defending
Kollerová, L., Janošová, P., & Říčan, P. (2014). Good and evil at school: Bullying and moral evaluation in early adolescence. *Journal of Moral Education*, 43(1), 18–31. https://doi.org/10.1080/03057240.2013.866940	Not actual defending
Laninga-Wijnen, L., Malamut, S. T., Garandeau, C. F., & Salmivalli, C. (2023). Does defending affect adolescents' peer status, or vice versa? testing the moderating effects of empathy, gender, and anti-bullying norms. *Journal of Research on Adolescence*, 33(3), 913–930. https://doi.org/10.1111/jora.12847	Overlapping dataset
Levantini, V., Gelati, C., & Camodeca, M. (2024). Defending behavior in school bullying: The role of empathic self-efficacy, social preference, and student-teacher relationship. *Social Psychology of Education*, 27(4), 2015–2029. https://doi.org/10.1007/s11218-024-09892-5	Outcome not of interest
Liu, Y.-L., Jian, T.-E., & Wang, C.-Y. (2025). Utilizing VR technology to explore the moral courage process and bystander behaviors: An experimental trial. *Computers in Human Behavior Reports*, 17, 100596. https://doi.org/10.1016/j.chbr.2025.100596	Insufficient data for main analysis
Liu, Y.-L., Chang, C.-Y., & Wang, C.-Y. (2023). Using VR to investigate bystander behavior and the motivational factors in school bullying. *Computers & Education*, 194, 104696. https://doi.org/10.1016/j.compedu.2022.104696	Insufficient data for main analysis
Longobardi, C., Borello, L., Thornberg, R., & Settanni, M. (2019). Empathy and defending behaviours in school bullying: The mediating role of motivation to defend victims. *British Journal of Educational Psychology*, 90(2), 473–486. https://doi.org/10.1111/bjep.12289	Outcome not of interest
Ma, T. (2019). Adolescents' willingness to help with peer victimisation in Taiwan: The role of individual and situation-specific characteristics. *International Journal of Psychology*, 55(2), 201–209. https://doi.org/10.1002/ijop.12565	Not actual defending
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McIver, T. A., Craig, W., Bosma, R. L., Chiarella, J., Klassen, J., Sandre, A., Goegan, S., & Booij, L. (2022). Empathy, defending, and functional connectivity while witnessing social exclusion. *Social Neuroscience*, 17(4), 352–367. https://doi.org/10.1080/17470919.2022.2086618	Mismatched sample
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Nickerson, A. B., Aloe, A. M., Livingston, J. A., & Feeley, T. H. (2014). Measurement of the bystander intervention model for bullying and sexual harassment. *Journal of Adolescence*, 37(4), 391–400. https://doi.org/10.1016/j.adolescence.2014.03.003	Mismatched sample
Nieh, H., & Wu, W. (2018). Effects of a collaborative board game on Bullying intervention: A group-randomized controlled trial. *Journal of School Health*, 88(10), 725–733. https://doi.org/10.1111/josh.12675	Not actual defending
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Park, J. H. (2013). Differential correlates of bully/victim status and bystander roles of school violence with school adjustment in Korea. *KEDI Journal of Educational Policy*.	Insufficient data for main analysis
Raminhos, C., Cláudio, A. P., Carmo, M. B., Gaspar, A., Carvalhosa, S., & Candeias, M. de. (2016). A serious game-based solution to prevent bullying. *International Journal of Pervasive Computing and Communications*, 12(2), 194–215. https://doi.org/10.1108/ijpcc-04-2016-0022	Insufficient data for main analysis
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Sahli, J., Mellouli, M., El Ghardallou, M., Limam, M., Gallas, M., Ammar, A., Mtiraoui, A., Ajmi, T. N., & Zedini, C. (2018). Bullying Among Tunisian Middle School Students: The Prevalence, Psychosocial Associated Factors and Perceived Involvement of Parents, Teachers and Classmates. *Journal of Research in Health Sciences*, *18*(2), e00414.	Not actual defending
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Vezzali, L., Birtel, M. D., Di Bernardo, G. A., Stathi, S., Crisp, R. J., Cadamuro, A., & Visintin, E. P. (2019). Don't hurt my outgroup friend: A multifaceted form of imagined contact promotes intentions to counteract bullying. *Group Processes & Intergroup Relations*, 23(5), 643–663. https://doi.org/10.1177/1368430219852404	Not actual defending
Vrijhof, C. I., van den Bulk, B. G., Overgaauw, S., Lelieveld, G., Engels, R. C. M. E., & van IJzendoorn, M. H. (2016). The prosocial Cyberball game: Compensating for social exclusion and its associations with empathic concern and bullying in adolescents. *Journal of Adolescence*, 52(1), 27–36. https://doi.org/10.1016/j.adolescence.2016.07.005	Not actual defending
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